Object-Oriented Metrics

Object-oriented metrics are aspects of measuring the quality of the object-oriented program. The foundations of object-oriented metrics were laid by Chidamber and Kemerer. These metrics are:

1. Weighted Methods per Class (WMC): The weighted sum of all methods in a class.
2. Depth of Inheritance Tree (DIT): Maximum length from the class to the root in the inheritance tree.
3. Number of Children (NOC): Number of directly inherited classes.
4. Coupling Between Object classes (CBO): Number of other classes coupled with the class under consideration.
5. Response For a Class (RFC): Number of methods invoked by a message received by an object of the considered class.
6. Lack of Cohesion in Methods (LCOM): Number of methods with the same set of attributes minus the number of methods with a different set of attributes

The object-oriented metrics can be classified into two categories:

1. Adaptation of classical sizing metrics
2. Object-oriented sizing and complexity metrics.

Classical Sizing Metrics

Laranjeira's software size estimation model [LAR90] provides a method to help size object-oriented systems. The application is based on successive estimates of the refinements of the system objects. The confidence in the size estimates increases as the system becomes more refined. Various statistical techniques determine the convergence rate to the actual estimate.

Object-Oriented Sizing Metrics

The six object-oriented metrics by Chidamber and Kemerer are used for sizing the object-oriented system.

Referencing:

Kumar, R., Kaur, G. (2011) Comparing Complexity in Accordance with Object Oriented Metrics. *International Journal of Computer Applications* 15(8): 42-45. DOI: 10.5120/1965-2631